Amendments to the Claims:

1.   (Currently Amended) A method for establishing a correspondence by intervals ($[T_B]$, $[T_{AB}]$) between the time (T_B) indicated by a first monotonic clock (H_B) and the time (T_A) indicated by a second clock (H_A), also monotonic, characterized in that it operates, over at least one temporal range (P1, P4), a first temporal reference (NT) common to the first and to the second clock and monotonic over said range, and in that said method comprises the steps of:

a)   determining a first temporal interval ($[T_B^1]$) bounded by a first pair of time values (T_B) of the first clock (H_B) and belonging to a first temporal range (P1) over which the first temporal reference (NT) common to the first and to the second clock exists;

b)   determining a second temporal interval ($[T_B^2]$) bounded by a second pair of time values (T_B) of the first clock (H_B) and belonging to a second temporal range (P4) over which the first temporal reference (NT) common to the first and to the second clock exists;

c)   determining, by means of the common temporal reference (NT), a third temporal interval ($[T_{AB}^1]$), bounded by a first pair of time values (T_A) of the second clock (H_A), and containing the first temporal interval ($[T_B^1]$);

d)   determining, by means of the common temporal reference (NT), a fourth temporal interval ($[T_{AB}^2]$), bounded by a second pair of time values (T_A) of the second clock (H_A), and containing the second temporal interval ($[T_B^2]$);

e)   for any given fifth temporal interval ($[T_B]$) bounded by a third pair of time values (T_B) of the first clock (H_B), calculating a sixth temporal interval ($[T_{AB}]$), bounded by a third pair of time values (T_A) of the second clock (H_A), and containing said fifth temporal interval ($[T_B]$), the calculation being performed by interpolation or extrapolation using said first ($[T_B^1]$), second ($[T_B^2]$), third ($[T_{AB}^1]$) and fourth ($[T_{AB}^2]$) intervals; <u>wherein at least the steps a) through e) are implemented by a computer.</u>

2.   (Original) The method as claimed in claim 1, wherein the step c) comprises the operations of:

c1)   determining a seventh ($[T_{A1}^1]$) and an eighth ($[T_{A2}^1]$) temporal interval, bounded by a fourth and fifth pair of time values (T_A) of the second clock (H_A), respectively, and

belonging to the first temporal range (P1), such that the first temporal interval ($[T_B^1]$) falls in the range between said seventh ($[T_{A1}^1]$) and eighth ($[T_{A2}^1]$) temporal intervals;

      c2)   determining a first (NT_B^1), second (NT_{A1}^1) and third (NT_{A2}^1) value of the first common temporal reference (NT), included in said first ($[T_B^1]$), seventh ($[T_{A1}^1]$) and eighth ($[T_{A2}^1]$) temporal intervals, respectively;

      c3)   calculating, by interpolation, said third ($[T_{AB}^1]$) temporal interval, using said first ($[T_B^1]$), seventh ($[T_{A1}^1]$) and eighth ($[T_{A2}^1]$) temporal intervals and said first (NT_B^1), second (NT_{A1}^1) and third (NT_{A2}^1) values of the first common temporal reference (NT) ;

    and wherein the step d) comprises the operations of:

      d1)   determining a ninth ($[T_{A1}^2]$) and a tenth ($[T_{A2}^2]$) temporal interval, bounded by a sixth and seventh pair of time values (T_A) of the second clock (H_A), respectively, and belonging to the second temporal range (P4), such that the second temporal interval ($[T_B^2]$) falls in the range between said ninth ($[T_{A1}^2]$) and tenth ($[T_{A2}^2]$) intervals;

      d2)   determining a fourth (NT_B^2), fifth (NT_{A1}^2) and sixth (NT_{A2}^2) value of the first common temporal reference (NT), included in said second ($[T_B^2]$), ninth ($[T_{A1}^2]$) and tenth ($[T_{A2}^2]$) temporal intervals, respectively;

      d3)   calculating, by interpolation, said fourth ($[T_{AB}^2]$) temporal intervals, using said second ($[T_B^2]$), ninth ($[T_{A1}^2]$) and tenth ($[T_{A2}^2]$) temporal intervals and said fourth (NT_B^2), fifth (NT_{A1}^2) and sixth (NT_{A2}^2) values of the first common temporal reference (NT).

      3.   (Original) The method as claimed in claim 1, wherein the step c) comprises the operations of:

      c1)   determining a seventh (T_{A1}^1) and an eighth (T_{A2}^1) time value (T_A) of the second clock (H_A) belonging to the first temporal range (P1), such that said first temporal interval ($[T_B^1]$) falls in the range between said seventh (T_{A1}^1) and eighth (T_{A2}^1) values;

      c2)   determining a first ($[NT_B^1]$), second ($[NT_{A1}^1]$) and third ($[NT_{A2}^1]$) interval of values of the first common temporal reference (NT), comprising said first temporal interval ($[T_B^1]$) and said seventh (T_{A1}^1) and eighth (T_{A2}^1) time values (T_A) of the second clock (H_A), respectively;

c3)   calculating, by interpolation, said third ($[T_{AB}^1]$) temporal interval, using said first interval ($[T_B^1]$) of time values (T_B) of the first clock (H_B), said seventh (T_{A1}^1) and eighth (T_{A2}^1) time values (T_A) of the second clock (H_A) and said first ($[NT_B^1]$), second ($[NT_{A1}^1]$) and third ($[NT_{A2}^1]$) intervals of values of the first common temporal reference (NT) ;

and wherein the step d) comprises the operations of:

d1)   determining a ninth (T_{A1}^2) and a tenth (T_{A2}^2) time values (T_A) of the second clock (H_A) belonging to the second temporal range (P4), such that said second temporal interval ($[T_B^2]$) falls in the range between said ninth (T_{A1}^2) and tenth (T_{A2}^2) values ;

d2)   determining fourth ($[NT_B^2]$), fifth ($[NT_{A1}^2]$) and sixth ($[NT_{A2}^2]$) intervals of values of the first common temporal reference (NT), comprising said second ($[T_B^2]$) temporal interval and said ninth (T_{A1}^2) and tenth (T_{A2}^2) time values (T_A) of the second clock (H_A);

d3)   calculating, by interpolation, said fourth ($[T_{AB}^2]$) temporal interval, using said second interval ($[T_B^2]$) of time values (T_B) of the first clock (H_B), said ninth (T_{A1}^1) and tenth (T_{A2}^1) time values (T_A) of the second clock (H_A) and said fourth ($[NT_B^1]$), fifth ($[NT_{A1}^1]$) and sixth ($[NT_{A2}^1]$) intervals of values of the first common temporal reference (NT).

4.   (Original) The method as claimed in claim 2, wherein the operation c3) is carried out by replacing said first (NT_B^1), second (NT_{A1}^1) and third (NT_{A2}^1) values of the common temporal reference (NT) by temporal intervals ($[NT_B^1]$, $[NT_{A1}^1]$, $[NT_{A2}^1]$) whose width is equal to the discretization of the first common temporal reference (NT) over the first temporal range (P1),

and wherein the operation d3) is carried out by replacing said fourth (NT_B^2), fifth (NT_{A1}^2) and sixth (NT_{A2}^2) values of the common temporal reference (NT) by temporal intervals ($[NT_B^2]$, $[NT_{A1}^2]$, $[NT_{A2}^2]$) whose width is equal to the discretization of the first common temporal reference (NT) over the second temporal range (P4).

5.   (Original) The method as claimed in claim 3, wherein the operations c3) and d3) are carried out by replacing said seventh (T_{A1}^1), eighth (T_{A2}^1), ninth (T_{A1}^2) and tenth (T_{A2}^2) time values (T_A) of the second clock (H_A) by temporal intervals ($[T_{A1}^1]$, $[T_{A1}^2]$, $[T_{A2}^1]$, $[T_{A2}^2]$) whose width is equal to the discretization of the time (T_A) of the second clock (H_A).

6.   (Previously Presented) The method as claimed in claim 2 wherein, during the temporal range or ranges (P1, P4) over which a first common temporal reference (NT) exists, a first reading of the first clock (TL1 – FHB) is recorded several times, followed by a reading of the first common temporal reference (TR – FHB) and, subsequently, by a second reading of the first clock (TL2 – FHB), and independently, a first reading of the second clock (TL1 – FHA) is recorded, also several times, followed by a reading of the first common temporal reference (TR – FHA) and then by a second reading of the second clock (TL2 – FHA), and wherein the operations c1), c2), c3), d1), d2) and d3) are performed using these recordings.

7.   (Previously Presented) The method as claimed in claim 3 wherein, during the temporal range or ranges (P1, P4) over which a first common temporal reference (NT) exists, a first reading of the first common temporal reference (NT) is recorded several times, followed by a reading of the first clock (H_B) and, subsequently, by a second reading of the first common temporal reference (NT), and independently, a first reading of the first common temporal reference (NT) is recorded, also several times, followed by a reading of the second clock (H_A) and then by a second reading of the first common temporal reference (NT), and wherein the operations c1), c2), c3), d1), d2) and d3) are performed using these recordings.

8.   (Previously Presented) The method as claimed in claim 1 wherein the step e) is carried out by linear interpolation by intervals or by linear extrapolation by intervals.

9.   (Previously Presented) The method as claimed in claim 2 wherein the operations c3) and d3) are performed by linear interpolation by intervals.

10.   (Previously Presented) The method as claimed in claim 1 wherein the first temporal reference (NT) common to the first and to the second clock exists over at least two separate temporal ranges (P1, P4) and can comprise a rupture of monotonicity from one temporal range to the other, a second monotonic common temporal reference (TMR - NMR) being used in order to resolve the ambiguities resulting from the non-monotonicity of the first common temporal reference (NT).

11.   (Previously Presented) A method for synchronizing data recorded and date stamped by a first machine (B), having a first clock (H_B), with respect to the local time of a second machine (A), having a second clock (H_A), wherein the date stamping is carried out by associating with each data value recorded by the first machine a fifth temporal interval ($[T_B]$), bounded by a third pair of time values (T_B) of the first clock (H_B), and the synchronization is performed by determining, by a method as claimed in claim 1, a sixth temporal interval ($[T_{AB}]$), bounded by a third pair of time values (T_A) of the second clock (H_A) and containing said fifth temporal interval ($[T_B]$).

12.   (Original) The method as claimed in claim 11 wherein the first common temporal reference (NT) is supplied by a clock (H_{BUS}) of a synchronous bus (BUS) which connects, at least temporarily, said first and second machines.

13.   (Previously Presented) The method as claimed in claim 11, which is broken down into a first sub-process for recording clock readings carried out locally by each machine whose data it is desired to synchronize, and a second process for the synchronization itself, effected by a machine toward which all the data has been transferred after the termination of the data recording session.

14.   (Previously Presented) The method as claimed in claim 4 wherein, during the temporal range or ranges (P1, P4) over which a first common temporal reference (NT) exists, a first reading of the first clock (TL1 – FHB) is recorded several times, followed by a reading of the first common temporal reference (TR – FHB) and, subsequently, by a second reading of the first clock (TL2 – FHB), and independently, a first reading of the second clock (TL1 – FHA) is recorded, also several times, followed by a reading of the first common temporal reference (TR – FHA) and then by a second reading of the second clock (TL2 – FHA), and wherein the operations c1), c2), c3), d1), d2) and d3) are performed using these recordings.

15.   (Previously Presented) The method as claimed in claim 5 wherein, during the temporal range or ranges (P1, P4) over which a first common temporal reference (NT) exists, a first reading of the first common temporal reference (NT) is recorded several times, followed by

a reading of the first clock (H_B) and, subsequently, by a second reading of the first common temporal reference (NT), and independently, a first reading of the first common temporal reference (NT) is recorded, also several times, followed by a reading of the second clock (H_A) and then by a second reading of the first common temporal reference (NT), and wherein the operations c1), c2), c3), d1), d2) and d3) are performed using these recordings.